Claims

What is claimed is:

1. A spark ignited engine; said engine comprising:

a block having a top surface and a cylindrical bore therein;

a piston being movably positioned in said cylindrical bore;

a cylinder head having a bottom surface and being attached to said block;

a combustion chamber being defined by said cylindrical bore, said piston and said bottom surface of said cylinder head;

a spark plug having an electrode, a plug shell, a plug shell cap and an insulator, said spark plug being positioned in said cylinder head;

said spark plug being of an encapsulated configuration defining an ignition chamber; and

said spark plug being substantially positioned within said cylinder head and substantially external of said combustion chamber.

2. The spark ignited engine as defined in claim 1 wherein said plug shell defines a cylindrical outer contour being connected to a bottom plane portion having a flat outer contour.

3. The spark ignited engine as defined in claim 1 wherein said ignition chamber defines a cylindrical outer profile, a flat top portion and one of a radiused and a flat and an angled bottom profile.

4. The spark ignited engine as defined in claim 1 wherein said ignition chamber has at least a single orifice exiting therefrom through a bottom plane portion having a flat outer contour and into said combustion chamber.

5. The spark ignited engine as defined in claim 4 wherein said single orifice is positioned about an axis, said axis being aligned with an axis of said combustion chamber.

6. The spark ignited engine as defined in claim 1 wherein said ignition chamber has a plurality of orifices exiting therefrom through a bottom plane portion having a flat outer contour and into said combustion chamber.

7. The spark ignited engine as defined in claim 6 wherein said plurality of orifices are position about an axis, said axis being aligned with an axis of said combustion chamber.

8. The spark ignited engine as defined in claim 7 wherein each of said plurality of orifices are positioned at an equal distance from said axis and at an equal angular relationship.

9. The spark ignited engine as defined in claim 1 wherein said ignition chamber has one of a radiused and a flat and an angled bottom profile, said plug shell defines a bottom plane portion having a flat outer contour and a wall thickness formed therebetween has a wall thickness being thicker near an outer portion than at a center portion.

10. A spark plug comprising:

an electrode being an electrical conductor and having a heat resistance;

an insulator being operatively positioned about the electrode and maintaining structural integrity in a high temperature environment;

a plug shell being operatively connected to the electrode and having an insulator region, a connection region and a tip and orifice portion, said tip and orifice portion having an ignition chamber therein and having a bottom plane portion defining a substantially flat outer contour.

11. The spark plug as defined in claim 10 wherein said plug shell defines a cylindrical outer contour being connected to said bottom plane portion.

12. The spark plug as defined in claim 10 wherein said ignition chamber has a cylindrical outer profile, a flat top profile and one of a radiused and a flat and an angled bottom profile.

13. The spark plug as defined in claim 12 wherein one of said radiused and flat and angled bottom profile has a opening therein.

14. The spark plug as defined in claim 13 wherein said opening is positioned about an axis.

15. The spark plug as defined in claim 13 wherein one of said radiused and flat and angled bottom profile has a plurality of openings therein.

16. The spark plug as defined in claim 15 wherein each of said plurality of openings are positioned about an axis at an equal distance therefrom and at an equal angular relationship.

17. The spark plug as defined in claim 10 wherein said bottom plane portion has a wall thickness being thicker near an outer portion than at a center portion.

18. A method of positioning a spark plug within a cylinder head of an engine; said method comprising the steps of:

inserting said spark plug removably within said a cylinder head of said engines;

positioning said spark plug substantially within said cylinder head; and

having an ignition chamber of said spark plug in heat exchanging relationship with a cooling passage in said cylinder head.

19. The method of positioning a spark plug within a cylinder head of an engine as defined in claim 18 wherein said ignition chamber of said spark plug is external of a combustion chamber of said engine.

20. The method of positioning a spark plug within a cylinder head of an engine as defined in claim 18 wherein said spark plug has a bottom plane portion having a substantially flat outer contour.